**Instructor**: Christine Taylor

**Grade**: 8th Grade **Content**: Math **Length**: 1 Day

**Class Description**: Inclusion/General Education Class

**NGSSS**: MA.8.G.2.3: Demonstrate that the sum of the angles in a triangle is 180-degrees and apply this fact to find unknown measure of angles and the sum of angles in polygons.

**Access Points**:

MA.8.G.2.In.c: Distinguish angles within triangles as acute, obtuse, or right angles using a right angle as a model.

MA. 8.G.2.Su.c: Identify the angles within a triangle.

MA.8.G.2.Pa.b: Recognize corners and angles in two-dimensional shapes, including rectangles and triangles.

**Prior Knowledge**:

Add to 180/Subtract from 180, ability to use a calculator, ability to identify the parts of a triangle.

**Procedure**:

**Teacher-Directed Instruction**:

1) Begin the class with a presentation of triangles. Utilizing a power point presentation project the examples of various triangles so the whole class can participate in learning and then reviewing the different types of triangles. Provide a slide that will have a visual representation of different triangles with their names written underneath. (Include: right angle, isosceles, acute, obtuse, and equilateral) Allow the students a few minutes to create an index card of the triangles using the slide.

**Co-teaching Model**: ESE teacher can lead in instruction and both teachers will need to monitor the students progress of making their index cards with all of the triangles based off of the slide from the presentation.

2) Once the students have their triangle index cards. Continue by using an overhead projector and cut out plastic triangles to demonstrate how to measure the angles inside of a triangle using a protractor. As you measure each angle fill in the degree and once all three angles are found demonstrate how they equal 180. Duplicate this process for several examples before breaking the students into peer pairs.

**Co-teaching Model**: The general education teacher can lead instruction, while the ESE teacher can go around the room and encourage students to add information to their index cards so they remember how to measure an angle of a triangle and that all three angles equal 180.

**Independent Practice/Cooperative Practice**:

1) Break the students into peer pairs. Provide each team with the following:

\*Various items that are shaped as triangles:

Snack foods shaped like triangles like crackers, cookies, cheeses, candy, and pastries can be useful to keep students attention and add incentive to finish the task so they can eat their snack. Other items that can be used are plastic triangle pieces, pre-cut pieces of laminated construction paper, a racking triangle from a billiards set, and enlarged photographs showing triangles in nature and architecture.

\*Worksheets with each item provided listed. With four dashes set up as so:

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So that the peer pairs can record each angle measure and then check their work by adding them to make sure the angles equal 180.

The peer pairs should take turns measuring and recording.

**Co-teaching model**: Both teachers participate in follow up by traveling around the room to each peer pair, interacting and supervising that each student is participating in both measuring and recoding. Either teacher can intervene to assist a pair if there is a misunderstanding or they are having difficulty with the task.

**Assessment**:

Observation of teamwork and participation in the activity and completion of the worksheet will be collected and graded for accuracy of measured angles and showing the work being checked by equaling 180.

**Needs of Individual/Accommodations**:

Peer pairs will be created to ensure those students with stronger mathematics are paired with students with weaker mathematics.

Allow the use of calculators for students with delays in mathematics.

The worksheet and instructions can be provided in a student’s native language if it is not English.

Peer pairs can be created to ensure students with strong English skills are paired with students with weaker English skills.